

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A communication device, comprising:
a first radio system operating at a first range of frequencies; and
a second radio system operating at a second range of frequencies;
a controller adapted to control said first radio system and said second radio system such that only one of said first radio system and said second radio system may transmit at any one time;

a multiplexer adapted to time multiplex transmissions from said first radio system and said second radio system based on a timing of a synchronous connection-oriented (SCO) connection of said first radio system;

wherein at least a part of said first range of frequencies and said second range of frequencies overlap.

2. (previously presented) The communication device of claim 1, wherein:

said first radio system is a Bluetooth system and said second radio system is an IEEE 802.11 system.

3. (previously presented) The communication device of claim 1, wherein:

when said first radio system is transmitting said second radio system cannot receive or transmit.

4. (previously presented) The communication device of claim 3, wherein:

when said first radio system is receiving said second radio system cannot receive or transmit.

5. (previously presented) The communication device of claim 2, wherein said controller further comprises:

a switch adapted to switch on and off said first radio system and second radio system.

6. (canceled)

7. (previously presented) The communication device of claim 2, wherein:

said controller comprises a multiplexer adapted to time multiplex transmissions from said Bluetooth system and said IEEE 802.11 system, said IEEE 802.11 and said Bluetooth transmissions being multiplexed into Bluetooth time-slots.

8. (previously presented) A communication device, comprising:
a first radio system operating at a first range of frequencies, said first radio system is a Bluetooth system; and
a second radio system operating at a second range of frequencies, said second radio system is a IEEE802.11 system;
a controller adapted to control said first radio system and said second radio system with only one of said first radio system and said second radio system may transmit at any one time;
wherein at least a part of said first range of frequencies and said second range of frequencies overlap;
wherein said controller comprises a multiplexer adapted to time multiplex transmissions from said first radio system and said second radio system; and
wherein said Bluetooth transmissions are through a single HV2 SCO link connection, and said IEEE 802.11 transmissions being in two time-slots in every four.

9. (previously presented) A communication device, comprising:
a first radio system operating at a first range of frequencies, said first radio system is a Bluetooth system; and
a second radio system operating at a second range of frequencies, said second radio system is a IEEE802.11 system;
a controller adapted to control said first radio system and said second radio system with only one of said first radio system and said second radio system may transmit at any one time;
wherein at least a part of said first range of frequencies and said second range of frequencies overlap;
wherein said controller comprises a multiplexer adapted to time multiplex transmissions from said first radio system and said second radio system; and
wherein said Bluetooth transmissions are through a single HV3 SCO link connection, and said IEEE 802.11 transmissions being in four time-slots in every six.

10. (previously presented) A communication device, wherein:
a first radio system operating at a first range of frequencies, said first radio system is a Bluetooth system; and
a second radio system operating at a second range of frequencies, said second radio system is a IEEE802.11 system;
a controller adapted to control said first radio system and said second radio system with only one of said first radio system and said second radio system may transmit at any one time;
wherein at least a part of said first range of frequencies and said second range of frequencies overlap;
wherein said controller comprises a multiplexer adapted to time multiplex transmissions from said first radio system and said second radio system; and
wherein said Bluetooth transmissions are through two HV3 SCO link connections, and said IEEE 802.11 transmissions being in two time-slots in every six.

11. (currently amended) The communication device of claim 2, wherein:
said ~~control means~~ controller prevents transmission of IEEE 802.11 packets during a Bluetooth ACL packet transmission.

12. (previously presented) The communication device of claim 2, wherein:
said controller prevents transmission of Bluetooth ACL packets during an IEEE 802.11 packet transmission.

13. (previously presented) The communication device of claim 12, wherein:
said first radio system and said second radio system share a common physical layer.

14. (currently amended) A method of communicating utilizing a first radio system and a second radio system, comprising:

incorporating a first radio system operating at a first range of frequencies and a second radio system operating at a second range of frequencies into a single device;

overlapping at least a part of said first range of frequencies and said second range of frequencies;

time multiplexing transmissions from said first radio system and said second radio system based on a timing of time slots of a synchronous connection-oriented (SCO) connection of said first radio system;

controlling said first radio system and said second radio system with only one of said first radio system and said second radio system ~~transmits~~ transmitting at any one time.

15. (previously presented) The method of claim 14, wherein:

said first radio system is a Bluetooth system and said second radio system is an IEEE 802.11 system.

16. (previously presented) The method of claim 14, further comprising:

controlling said radio systems such that when one radio system is transmitting a remaining radio system cannot receive or transmit.

17. (previously presented) The method of claim 16, further comprising:

controlling said radio systems such that when one radio system is receiving a remaining radio system cannot receive or transmit.

18. (previously presented) The method of claim 15, wherein:

said radio systems are controlled by switching on and off said first radio system and second radio system.

19. (canceled)

20. (previously presented) A method of communicating utilizing a first radio system and a second radio system, comprising

incorporating a first radio system operating at a first range of frequencies and a second radio system operating at a second range of frequencies into a single device;

overlapping at least a part of said first range of frequencies and said second range of frequencies;

controlling said first radio system and said second radio system with only one of said first radio system and said second radio system transmits at any one time;

wherein said Bluetooth transmissions are through a single HV2 SCO link connection, and said IEEE 802.11 transmissions being in two time-slots in every four.

21. (previously presented) A method of communicating utilizing a first radio system and a second radio system, comprising

incorporating a first radio system operating at a first range of frequencies and a second radio system operating at a second range of frequencies into a single device;

overlapping at least a part of said first range of frequencies and said second range of frequencies;

controlling said first radio system and said second radio system with only one of said first radio system and said second radio system transmits at any one time;

wherein said Bluetooth transmissions are through a single HV3 SCO link connection, and said IEEE 802.11 transmissions being in four time-slots in every six.

22. (previously presented) A method of communicating utilizing a first radio system and a second radio system, comprising

incorporating a first radio system operating at a first range of frequencies and a second radio system operating at a second range of frequencies into a single device;

overlapping at least a part of said first range of frequencies and said second range of frequencies;

controlling said first radio system and said second radio system with only one of said first radio system and said second radio system transmits at any one time;

said Bluetooth transmissions are through two HV3 SCO link connections, and said IEEE 802.11 transmissions being in two time-slots in every six.

23. (previously presented) The method of claim 15, further comprising:

preventing transmission of IEEE 802.11 packets during a Bluetooth ACL packet transmission.

24. (previously presented) The method of claim 15, further comprising:

preventing transmission of Bluetooth ACL packets during an IEEE 802.11 packet transmission.

25. (previously presented) The method of claim 24, wherein:

said first radio system and said second radio systems share a common physical layer.

26. (previously presented) A communication apparatus, comprising:
means for incorporating a first radio system operating at a first range of frequencies and a second radio system operating at a second range of frequencies into a single device;

means for overlapping at least a part of said first range of frequencies and said second range of frequencies;

means for time multiplexing transmissions from said first radio system and said second radio system based on a timing of time slots of a synchronous connection-oriented (SCO) connection of said first radio system;

means for controlling said first radio system and said second radio system with only one of said first radio system and said second radio system transmits at any one time.

27. (previously presented) The apparatus of claim 26, wherein:
said first radio system is a Bluetooth system and said second radio system is an IEEE 802.11 system.

28. (previously presented) The apparatus of claim 26, further comprising:

means for controlling said radio systems such that when one radio system is transmitting a remaining cannot receive or transmit.

29. (previously presented) The method of claim 28, further comprising:

means for controlling said radio systems such that when one radio system is receiving a remaining cannot receive or transmit.

30. (previously presented) The apparatus of claim 26, wherein:
said radio systems are controlled by switching on and off said first radio system and second radio system.

31. (new) A communication device, comprising:
a first radio system operating at a first range of frequencies;
a second radio system operating at a second range of frequencies overlapping at least in part with said first range of frequencies; and
a controller adapted to schedule wireless asynchronous data associated with said second radio between periodic transmissions or receptions of wireless data associated with said first radio;
wherein said scheduling assures that said first radio system does not transmit at a time that said second radio system is receiving.

32. (new) A communication device according to claim 31, wherein:
said schedule is software programmable.

33. (new) The communication device according to claim 31,
wherein:
said first radio system is a Bluetooth system and said second radio system is an IEEE 802.11 system.

34. (new) The communication device according to claim 31,
wherein:
when said first radio system is transmitting, said second radio system is prevented from receiving and transmitting.

35. (new) The communication device according to claim 33,
wherein said controller comprises:
a multiplexer adapted to time multiplex transmissions from said Bluetooth system and said IEEE 802.11 system, said IEEE 802.11 and said Bluetooth transmissions being multiplexed into Bluetooth time-slots.

36. (new) The communication device according to claim 33, wherein:

said controller prevents transmission of an IEEE 802.11 packet during transmission of a Bluetooth ACL packet.

37. (new) The communication device according to claim 33, wherein:

said controller prevents transmission of a Bluetooth ACL packet during transmission of an IEEE 802.11 packet.

38. (new) The communication device according to claim 31, wherein:

said first radio system and said second radio system share a common physical layer.

39. (new) A method of avoiding interference in a dual-radio communication device, comprising:

means for operating a first radio system at a first range of frequencies;

means for operating a second radio system at a second range of frequencies overlapping at least in part with said first range of frequencies;

means for scheduling wireless asynchronous data associated with said second radio between periodic transmissions or receptions of wireless data associated with said first radio;

wherein said scheduling assures that said first radio system is prevented from transmitting at a time that said second radio system is receiving.

40. (new) A method of avoiding interference in a dual-radio communication device according to claim 39, wherein:

said schedule is software programmable.

41. (new) The method of avoiding interference in a dual-radio communication device according to claim 39, wherein:

said first radio system is a Bluetooth system and said second radio system is an IEEE 802.11 system.

42. (new) The method of avoiding interference in a dual-radio communication device according to claim 39, wherein:

preventing said second radio system from receiving and transmitting when said first radio system is transmitting,.

43. (new) The method of avoiding interference in a dual-radio communication device according to claim 41, wherein said means for packaging comprises:

multiplexing means for time multiplexing transmissions from said Bluetooth system and said IEEE 802.11 system, said IEEE 802.11 and said Bluetooth transmissions being multiplexed into Bluetooth time-slots.

44. (new) The method of avoiding interference in a dual-radio communication device according to claim 41, wherein:

said means for packaging prevents transmission of an IEEE 802.11 packet during transmission of a Bluetooth ACL packet.

45. (new) The method of avoiding interference in a dual-radio communication device according to claim 41, wherein:

said means for packaging prevents transmission of a Bluetooth ACL packet during transmission of an IEEE 802.11 packet.

46. (new) The method of avoiding interference in a dual-radio communication device according to claim 39, wherein:

said first radio system and said second radio system share a common physical layer.